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Generalized allergic contact dermatitis caused by methylisothiazolinone in a spray tan

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The frequency of allergic contact dermatitis caused by methylisothiazolinone is still increasing, and new sources of exposure are appearing (1–5). We report a case of generalized allergic contact dermatitis caused by methylisothiazolinone present in a spray tan sprayed over the entire body surface in a cabin. The spray tan contains dihydroxyacetone, which causes a suntan-like skin colour.

Case Report

A 49-year-old healthy woman with previously documented nickel allergy developed acute dermatitis of the face, neck and upper and lower limbs 2 days after using CT Color Perfecting Complex™ (California Tan®, Indianapolis, IN, USA) all over her body (Fig. 1). The spray tan contained dihydroxyacetone, and was preserved with methylisothiazolinone and methylchloroisothiazolinone. Treatment included systemic prednisolone and topical hydrocortisone-17-butyrate. The patient had used similar spray tan products on her legs a couple of times before, but had never experienced dermatitis. However, 2 months prior to the current spray tan exposure, she noticed face dermatitis after using Clarins Paris™ crème (95300 Pontoise, France). Patch testing with the European baseline series [TRUE Test® panel 1–3 (SmartPractice, Hillerød, Denmark) supplemented with the remaining baseline allergens], Clarins Paris™ crème 'as is' and the spray tan 'as is' in Finn Chambers® on Scanpor® tape (SmartPractice) was performed according to the department's



Fig. 1. Contact dermatitis caused by methylisothiazolinone in a spray tan.

routine procedure and to ICDRG criteria, with readings on day (D)3 and D7. Patch tests showed positive reactions to methylchloroisothiazolinone/methylisothiazolinone 4 µg/cm² (+++/+), to methylisothiazolinone 0.2% aq. (++/+), and to Clarins Paris™ crème 'as is' (++/+); the spray tan 'as is' gave a negative result. Clarins

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Paris™ crème contained methylisothiazolinone, but no methylchloroisothiazolinone.

Discussion

Allergen exposure from leave-on cosmetics is higher than that from rinse-off products, and may be the cause of the increasing incidence of sensitization to methylisothiazolinone that we are seeing in the current epidemic of methylisothiazolinone contact allergy (6). As spray tanning is a popular substitute for sun tanning, and is potentially used on the entire body surface, the area of exposure to methylisothiazolinone is large, and we

therefore expect more cases of generalized contact dermatitis caused by this type of product in the future. The patient did not develop contact dermatitis on the trunk, even though she was exposed to the allergen here as well. We have no explanation for this. In this case, the patient was sensitized to methylisothiazolinone prior to the full-body spray tan exposure. Given the large number of methylisothiazolinone-containing products in cosmetics, and also in paints and household products, we find it worrying that this allergenic preservative continues to be used without regulatory intervention from the EU authorities.

References

- 1 Aerts O, Baeck M, Constandt L et al. The dramatic increase in the rate of methylisothiazolinone contact allergy in Belgium: a multicentre study. *Contact Dermatitis* 2014; **71**: 41–48.
- 2 Isaksson M, Persson L. Occupational contact dermatitis caused by methylchloroisothiazolinone/methylisothiazolinone through exposure to filler dust containing this preservative and with a positive patch test reaction to the dust. *Contact Dermatitis* 2015; doi: 10.1111/cod.12396 [Epub ahead of print].
- 3 Madsen J T, Broesby-Olsen S, Andersen K E. Undisclosed methylisothiazolinone in an ultrasound gel causing occupational allergic contact dermatitis. *Contact Dermatitis* 2014; **71**: 312–313.
- 4 Pesonen M, Jolanki R, Larese Filon F et al. Patch test results of the European baseline series among patients with occupational contact dermatitis across Europe – analyses of the European Surveillance System on Contact Allergy network, 2002–2010. *Contact Dermatitis* 2015; **72**: 154–163.
- 5 Uter W, Uter M, Steen-Schuberth B, Schnuch A. Allergic contact dermatitis caused by methylisothiazolinone from a 'waist reduction belt'. *Contact Dermatitis* 2012; **66**: 347–348.
- 6 Ali F R, Shepherd E L, Yell L C, Buckley D A, Williams J D. Escalating methylisothiazolinone/methylchloroisothiazolinone allergy probably attributable to methylisothiazolinone in leave-on body cosmetics. *Contact Dermatitis* 2014; **70**: 316–317.